

GRAINMAKER® MILL

Congratulations
ON YOUR PURCHASE



Introduction

Your heirloom quality GrainMaker® Mill comes complete with everything you need to start grinding—all you need to add is quality grain, seeds, legumes or nuts.

Your Mill can produce cracked grains to fine flour in just one pass. Each Mill has been tested before it left our shop. You may notice some residual wheat flour in the Mill from this testing. Your GrainMaker® Mill was manufactured in a facility that grinds wheat and nuts—and no, I am not talking about our people!

Your GrainMaker® is an individually created appliance made from welded steel. We have designed it without small parts—you will find the Mill very easy to set up and take apart—no tools required.

You will notice seams in the hopper, as well as along the hopper bottom where it is welded to the feeding tube. We purposely do not powder coat the inside of the feeding tube or along the weld(s) because there is a lot of friction, and we do not want the powder coating to wear off in your food.

Set-Up

With just a few simple steps, you will be on your way to grinding your own wholesome ingredients!

1. Attach the **EXTENSION HANDLE** to the **V-PULLEY FLYWHEEL** using the provided bolts and large Allen wrench, placing the bolt furthest away from the wood grip into the shaft, and the second bolt into the tapped spoke of the v-pulley flywheel.

2. Secure GrainMaker® to your work surface by bolting or using the clamp.

3. Determine which auger to use. The spring like **COIL AUGER** allows for more ease of use when grinding small grains like wheat, barley and rice. You may also use it for popcorn. Be sure to insert the coil auger with the flat end in first. The **GRAINBREAKER AUGER** is for grinding corn, legumes, coffee beans, dehydrated foods and nuts. You may also grind smaller grains such as wheat. Its design and function is to break larger media before it reaches the **BURRS**. It is necessary to use the GrainBreaker auger on all large type grains. *HINT: When grinding larger nuts and legumes, break them into smaller pieces to allow them to fall more easily into the auger.* Nuts **must** be at room temperature to use the natural oils. When grinding nut butters you may remove the **DUST COVER** and use a spatula to remove the nut butter that gathers around the edges of the burrs.

4. The coil auger is already inserted in your GrainMaker® mill. To change augers, simply hold the burrs together with one hand while turning the **ADJUSTABLE CLICK AND LOCK KNOB** counter-clockwise with the other hand until it is completely unscrewed. Then remove the front burr. Pull the auger out and insert the other auger in. (Keep the spare auger on the **STORAGE POST** with the provided **CLIP**.) Then place your front burr on, and put the adjustment knob back on and tighten. *HINT: It is not necessary to remove the stationary burr when changing out the augers.*

5. Loosen the adjustable click and lock knob so that the extension handle rotates easily with no resistance.

6. Fill the **HOPPER** and begin grinding making sure you are turning clockwise. Allow the grain to work into the burrs, tightening the adjustment knob until you reach the desired consistency. *HINT: The initial ground product with varied consistencies can either be placed back into the hopper or tossed out to wildlife, with the exception of the nut butters.*

7. The small Allen wrench is used for adjusting the screws located on the **FLANGE** and dust cover when necessary. These screws are pre-set and should not need adjusting.

IMPORTANT WARNING! Do not put your fingers into the hopper or augers when grinding!



Bicycle Kit

Your Bicycle Kit comes completely assembled, and consists of:

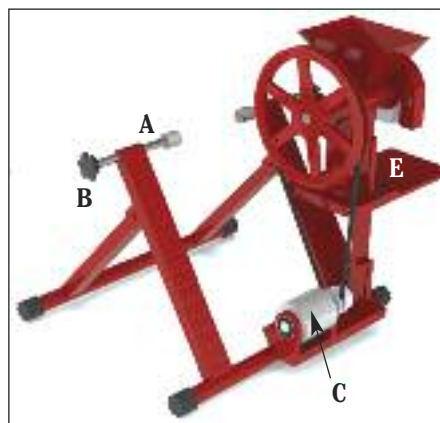
- Welded Steel Frame to fit a standard 26" bicycle wheel includes:
 - Axle Brackets (A)
 - Adjustment Knobs (B)
 - Drive Pulley with Friction Wheel (C)
 - Mounting Bracket Screws (D)
 - Mounting Plate w/Bowl Rest (E)
- Four – 3/8" cap nuts and nylon washers
- Belt
- Safety Guard

Consumer assumes all risk and responsibility when operating the Mill with this bicycle kit.

www.grainmaker.com ~ 406-777-7096

Instructions

- 1.** Align your bicycle's rear axle with **AXLE BRACKETS** on the Kit frame.
- 2.** Turn the **ADJUSTMENT KNOBS** until the bicycle tire is in the approximate center of the **FRICTION WHEEL**, then tighten the knobs until the bicycle is held firmly in place.
- 3.** Adjust the **MOUNTING BRACKET** up or down by loosening the **4 MOUNTING BRACKET SCREWS** on the inside of the frame until there is good contact with the bicycle tire.
- 4.** Remove the extended handle from your GrainMaker® Mill and place the Mill on the **MOUNTING PLATE WITH BOWL REST**. The Mill's adjustment knob should be on the outside, facing away from the tire.
- 5.** Slip the **BELT** over the GrainMaker® v-pulley flywheel and the **DRIVE PULLEY**, visually aligning until the belt is straight and loose tension is removed.
- 6.** Fasten the GrainMaker® Mill to the mounting plate using the **3/8" CAP NUTS AND NYLON WASHERS**. Do not over tighten! Place a bowl on the mounting plate with bowl rest.
- 7.** Insert the **SAFETY GUARD** into the Mill hopper with tab side down, add grain and start pedaling!
- 8.** Adjust the fineness/coarseness until you reach the desired consistency using the Click and Lock Adjustment Knob on your GrainMaker® Mill.



Your Mill includes:

- Welded Steel Body
- Extension Handle with Hickory Grip
- V-Pulley Flywheel
- GrainBreaker Auger
- Coil Auger
- Stationary Burr
- Front Burr
- Adjustable Click & Lock Knob
- Dust Cover
- Storage Post with Clip
- Tool Kit: 2 Allen Wrenches, 2 Bolts, 1 Cleaning Brush



Extension Handle with solid Hickory wood grip—color will vary

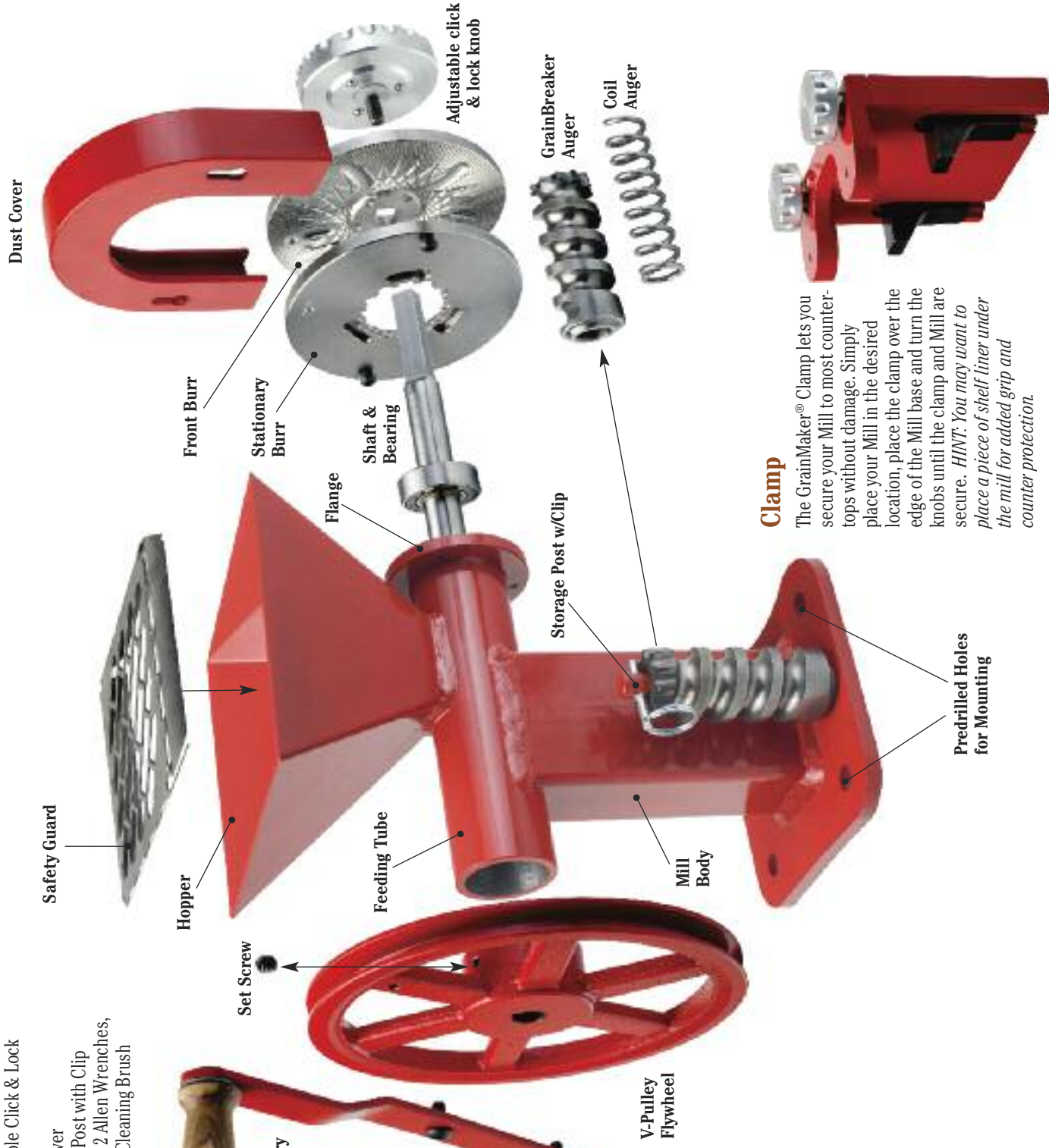
Clean Up

It's normal to have some extra material below the augers after grinding. Simply use the provided brush to clean any residual material and flour from the tube and burrs and wipe down powder-coated surface with a dry cloth.

To disassemble, while holding the two burrs together with one hand, simply turn the click and lock knob counter-clockwise with the other hand until it is completely unscrewed. Then remove the dust cover and front burr. To remove the stationary burr, turn clockwise and remove.

HINT: For a thorough cleaning after grinding oily materials, place a clean container under the burrs and run dry grain through the mill to absorb some of the oily residue, then disassemble and clean. You may wash the burrs by hand in soapy water, but you MUST dry immediately. If you do notice any rust on your burrs, simply run some wheat or dry grain through the mill and discard the flour.

IMPORTANT! DO NOT immerse the GrainMaker® mill in water, which could damage the bearings.



Clamp

The GrainMaker® Clamp lets you secure your Mill to most countertops without damage. Simply place your Mill in the desired location, place the clamp over the edge of the Mill base and turn the knobs until the clamp and Mill are secure. *HINT: You may want to place a piece of shelf liner under the mill for added grip and counter protection.*



Bodine Electric Motor

Your custom Bodine Motor comes complete with:

- 67 RPM Bodine Electric Motor
- Motor Flange (A)
- Split Collar (B)
- Safety Guard
- T-Handle Allen Wrench

NOTE: The GrainMaker® Mill must be bolted securely to a work surface before using an electric motor, and the Safety Guard must be in place. Do not adjust the knob while the motor is running. Consumer assumes all risk and responsibility when operating this motor.

Bodine Motor Installation

Do not plug in until these steps have been taken.

1. Secure your GrainMaker® mill to a work surface by either bolting or using the clamp.

2. Remove the Extension Handle with Hickory Grip using the Allen wrench that came with your GrainMaker® Mill.

3. Use the **T-HANDLE ALLEN WRENCH**, turn the set screw on the V-Pulley Flywheel two times and remove the flywheel. This is where the motor will be mounted.

4. Remove the Dust Cover, then loosen adjustment knob to allow the front burr to move freely.

5. Place the motor on a flat surface. Using the same Allen wrench you used to remove the Extension handle, loosen the screws on the **MOTOR FLANGE** 1/2 turn. Remove the screws on the **SPLIT COLLAR**.

6. Align the key/keyway on the GrainMaker® shaft to the key slot on the Bodine Motor and push it on. Place the top of the split collar back, and tighten the screws evenly. **NOTE: The split collar does NOT close all the way and the gap should be the same on both sides. (See photo left)**

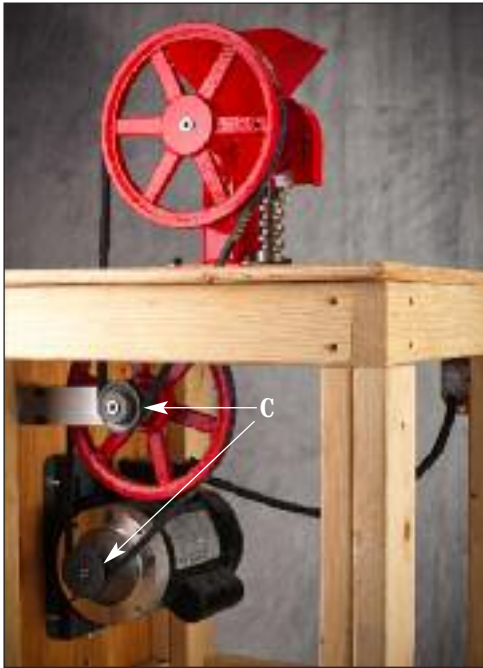
7. Re-tighten all four bolts on the motor flange.

8. Replace the dust cover and insert the **SAFETY GUARD** into the hopper with the tab side down.

9. Without completely tightening the adjustment knob, plug the motor into a grounded 110 outlet and briefly turn the motor on to make sure everything rotates freely.

10. Shut the power off, fill the hopper and turn the motor back on. Once the grain has worked into the burrs, you will need to turn off the power, adjust the knob and restart. This may take several times until desired consistency is met.

DIY Motor Kit



The Do-It-Yourself Motor Kit comes partially assembled and includes:

- Ratio-Reducing Jack Shaft Assembly (A)
- 10" Pulley (B)
- Two 2" Pulleys (C above)
- 40" Belt
- 48" Belt
- Safety Guard
- Motor Slide Base for a #56 motor frame (D)
- Installation Template

The DIY Kit is designed for consumers with basic knowledge of mechanics and carpentry. It allows you to convert your own 1725 RPM motor to a safe grinding speed of under 100 RPMs.

Note: The GrainMaker® Mill must be bolted securely to a work surface before using any electric motor, and the Safety Guard must be in place. Consumer assumes all risk and responsibility when operating the Mill with a motor.

The GrainMaker® Mill runs in a clockwise rotation. The photo and diagram here shows the motor mounted to run in this manner. Your motor may be mounted differently depending upon the direction of rotation.

Our instructions are designed to mount the GrainMaker® vertically, with the motor mounted under a bench or work surface as shown. You may choose to mount the motor horizontally on a bench top. This method requires more space and more guarding for safe operation.

GrainMaker® recommends 3/8" bolts, nuts and washers to mount the Mill to the surface, and 1/4" bolts, nuts and washers to secure the Motor Base and Jack Shaft assembly. Length of bolts will vary depending on the thickness of the surface and lumber being used.

Vertical Assembly Instructions

- 1.** Determine the surface you will be using to mount the Mill and motor assembly—either a workbench or pre-fabricated table. You will need a sturdy vertical surface to mount the motor and jack shaft assembly. Add plywood or boards as shown in the photo.
- 2.** Use the template to mark the location for the **MOTOR BASE** and **JACK SHAFT ASSEMBLY** mounting bolts. Pre-drill and install using your own 1/4" bolts, washers and nuts.

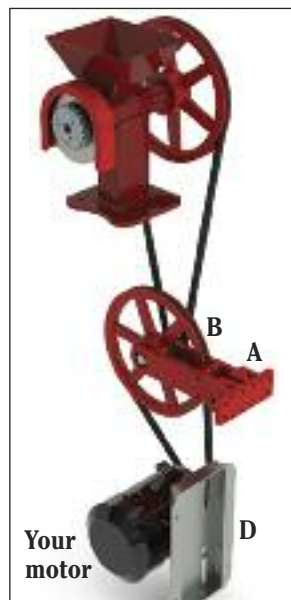
- 3.** Remove the Extension Handle from your Mill. Place the Mill on the table-top, and visually align the Flywheel with the **2" JACK SHAFT PULLEY**. Mark the location and pre-drill holes to mount the Mill in position.

- 4.** Cut a slot for the belt to go through, then mount the Mill in place using your own 3/8" bolts, nuts and washers.

- 5.** Place belt on GrainMaker® flywheel to 2" **JACK SHAFT PULLEY**.

- 6.** Use the adjustment screw on the motor base to tighten the belts.

- 7.** Insert the Safety Guard in the hopper before using the Mill, and be sure all the screws and bolts are tight before you begin milling.



“Don’t hesitate to call us with your questions: 406.777.7096. We manufacture every Mill at our Montana shop and use the Mill in our own homes.”

Using Whole Grains

The quality of the product you make is never any better than the raw material you start with. Always buy the highest quality grains and seeds you can afford. Remember to use grains with low moisture and high protein content for the best results.

Wheat – Six classes bring order to about 30 thousand varieties of wheat. They include: Hard Red Winter, Soft Red Winter, Hard Red Spring, Hard White, Soft White and Durum. White Wheat does NOT make white flour as purchased in stores. You should purchase food grade, Non-GMO and chemical free wheat.

- Prairie Gold is a Hard White Spring Wheat. It contains 15-17% Protein and 9.5-10% moisture content.
- Bronze Chief is a Hard Red Spring Wheat. It contains 15-17% protein and 9.5-10% moisture content.
- Kamut Khorasan is an ancient heritage grain with a buttery rich, nutty flavor. It is higher in protein, essential lipids and amino acids and lower in gluten. It is sometimes called “Egyptian Wheat”.
- Spelt is also an ancient grain and is a cousin to wheat. It does contain gluten, but does not seem to cause sensitivities in many people who are intolerant of wheat.

HINT: Whole grain breads are more likely to turn out well with extras such as dough enhancer or oatmeal. Water for dissolving yeast should not exceed 125°. Whole grain breads should rise to just barely double in size; if they rise too long they will collapse in the oven.

Corn – Corn is a good source of vitamin A, manganese and potassium. Popcorn makes “the best cornmeal/flour” according to many folks because it is very dry and hard. You can use either auger when grinding popcorn.

Rye – Rye contains gluten, but it is much lower than that of wheat. It is an excellent source of dietary fiber as well as vitamin E, calcium, iron, thiamin, phosphorus and potassium. Rye breads are usually made with at least half wheat flour.

Rice – Worldwide there are more than 40,000 varieties of rice. Rice flour is made from either white or brown rice and is a good alternative for people with food sensitivity. Rice flour is also used as a thickening agent in recipes that are refrigerated or frozen since it inhibits liquid separation.

Barley, Buckwheat, Quinoa and Millet – These are other grains you may consider grinding and adding to your recipes. Buckwheat and Millet do not contain gluten.

Oat Groats – One of the most nutritious grains and a good source of the soluble fiber betaglucan, which helps decrease cholesterol in the blood.

Oats may contain gluten and there is some debate in this area. Oat flour helps bread to rise properly.

Flaxseed – One of the best sources of omega-3 fatty acids, which is beneficial in reducing cholesterol and lowering the risk of stroke and heart disease and about 1/3 of the fiber in flax is soluble and 2/3 is insoluble, which is an important component in aiding digestion. Flaxseed is the best source of lignin, which may play a role in fighting certain types of cancer.

Beans – Bean flour makes a great gluten-free substitute. Adding bean flour to wheat flour helps to aid in digestion and should be started slowly, working up to a 4/1 ratio. Be sure to use the GrainBreaker auger for beans.

Coffee – Using the GrainBreaker auger you can make any type grind for the way you like to brew coffee.

Nuts – Make your own nut butters! Use fresh, roasted salted or unsalted nuts as you prefer, and the GrainBreaker auger making sure larger nuts are broken first. Do not use nuts that have been refrigerated or frozen.

These are just some of the many items being ground in the GrainMaker® mill. You may choose to grind dehydrated tomatoes, potatoes and other vegetables. We would love to hear about what you are grinding!



Bonnie's Recipes

Cornmeal Muffins

1 Cup Home-ground cornmeal – (I use popcorn)
1 Cup Home-ground whole-wheat flour
1/2 tsp. Salt
2 Tbsp Baking powder
2 Eggs
1/2 Cup Honey
1 Cup Milk
2 Tbsp. Melted butter

Mix the dry ingredients together, set aside.
In a separate bowl, mix the eggs, honey and milk together before adding to the dry ingredients.
Stir in the melted butter. Pour into greased muffin tins. Bake 425° for approximately 25 minutes. Enjoy!

Whole Wheat Bread

3 Cups Milk or Buttermilk
1 1/2 Tbsp. Molasses
1 Tbsp. Honey
Scant 1/2 cup Olive Oil (1/4 to 1/2 cup)
1 1/2 Cups warm water
1 1/2 Tbsp Active dry yeast
Approximately 14 1/2 Cups fresh ground whole wheat flour

Dissolve yeast, honey and molasses in warm water and let stand for 15 minutes. Meanwhile, bring milk or buttermilk to a boil and cool to lukewarm. Add cooled milk to yeast mixture, then add remaining ingredients, stirring in flour a few cups at a time until dough reaches a good consistency for kneading. Turn out on floured surface and knead until smooth. Divide dough and shape into three loaves. Place in greased bread pans, cover and let rise (not double in size). Bake at 350° approximately 45 minutes.
Enjoy!

GRAINMAKER[®] MILL

Heirloom Guarantee

Bitterroot Tool & Machine LLC warrants this GrainMaker[®] grain mill to be free from defects in materials and workmanship under normal household use and conditions for a Lifetime. This Heirloom Guarantee covers all parts including the burrs and excluding the finish. This Heirloom Guarantee is void if the mill is used commercially, or in any way other than recommended.

Bitterroot Tool & Machine will repair, or at its discretion, replace the grain mill or mill parts free of charge if in the opinion of the company it has been proven the problem is related to defective parts or an error in workmanship.

Authorized by:

Bitterroot Tool & Machine/Date/Heirloom Guarantee Number

Money-Back Guarantee: Your grain mill comes with a 30 day money-back guarantee. Contact Bitterroot Tool & Machine immediately to arrange return and full refund of purchase price if you are not satisfied with your purchase.

Registration: The Heirloom Guarantee Registration Card must be completed and mailed to Bitterroot Tool & Machine, PO Box 130, Stevensville, MT 59870, within thirty (30) days of receipt of merchandise. This proof of purchase must be on file with the company when requesting Guarantee service. If you purchase a mill without an Heirloom Guarantee Registration Card, please contact Bitterroot Tool & Machine.

Shipping Damage: Damage due to shipping should be reported immediately to Bitterroot Tool & Machine.

Limitations: The Heirloom Guarantee is void if the product is used for any other purpose than that for which it is designed or intended. The product must not be altered, repaired or serviced by anyone other than the company. The product must not have been subject to accident or damage in transit, or while in the owner's possession, misused, abused or operated contrary to the instructions contained in the instruction manual. This Heirloom Guarantee is valid in all countries. The consumer will pay all postage for repairs if shipping outside the United States.

Expressed or Implied Warranties: Except to the extent prohibited by law, no other warranties whether expressed or implied, including warranty merchantability and fitness for a particular purpose, shall apply to this product. Under no circumstances shall Bitterroot Tool & Machine be liable for consequential damages sustained in connection with said product. Bitterroot Tool & Machine neither assumes nor authorizes any representative or other person to assume for it any obligation or liability other than such as is expressly set forth. This Heirloom Guarantee covers only the GrainMaker[®] and its specific parts, not the food or other products processed in it.



Manufactured by:
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DIY Motor Kit



DIY Motor Kit

\$255.00/Model No.116

\$225.00/Model No.99

Prices do not include shipping

This kit was designed for those of you who already own a motor and want to use it to motorize your GrainMaker. The ratio reducing jackshaft keeps the rpm's at a safe grinding speed ensuring the preservation of vital nutrients in your grains and protecting the integrity of the mill. Please understand, the kit does require a degree of mechanical skills to assemble.

The Do-It-Yourself Motorizing Kit includes:

- ♥ 3 Pulleys
- ♥ 2 Belts
- ♥ Ratio reducing jackshaft
- ♥ Hopper guard

The kit can be assembled vertical or horizontal, we recommend vertical.

The photo is shown without guarding to allow for viewing; it is the customers responsibility to properly guard all areas of their set up for safety.

Thank you so much for your interest in our GrainMaker mills! We truly want you to be 100% satisfied when you purchase a product from us. All of our products come with a 30 day satisfaction guarantee. If for any reason you are not satisfied with your product during that time, simply return it for a full refund, no questions asked.

We are happy to offer a free layaway option for those who wish to order and pay on a monthly basis. We simply take the total of your order, add the shipping and divide it into four equal monthly payments. As soon as your order is paid, we ship your product.

We do offer discount pricing when ordering accessories so please contact us for pricing details.

We also offer custom engraving to allow you to personalize your GrainMaker. The cost is \$3.00 per character including spaces & punctuation, up to 30 characters maximum.

We look forward to speaking with you!

Randy & Bonnie Jones

Proverbs 3:5-6

GrainMaker Mills



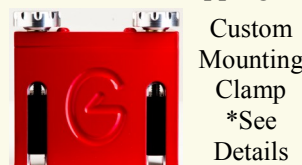
GrainMaker
Model No.116

\$1,265.00 + Shipping



GrainMaker
Model No.99

\$675.00 + Shipping



Custom
Mounting
Clamp
*See
Details

- ♥ Adjustable click and lock knob allows owner to determine consistency of media being ground. This assures that once desired consistency is met the knob is locked in place, thus assuring even results.
- ♥ Welded steel construction for added strength
- ♥ No small parts to be lost
- ♥ Comes with both the coil auger for small grains and the GrainBreaker auger that will grind grains, corn, legumes, coffee beans, flax seeds, dehydrated vegetables, most nuts and
- ♥ Sealed ball bearings for smooth operation
- ♥ Extended handle with hickory grip included for added leverage when grinding
- ♥ Heirloom Guarantee on EVERY part of the GrainMaker, including the burrs, allowing for generational use
- ♥ Four predrilled holes in the base of either mill allow for easy mounting if you wish to bolt the mill to a work surface or counter
- ♥ Model No.116 stands 14 1/4" tall and weighs 43.4 lbs.
- ♥ Model No.99 stands 13 1/4" tall and weighs 24.8 lbs.
- ♥ Model No.116 comes with true 6" grinding burrs that are individually machined from alloy steel, a 10 cup hopper, adjustable feed slide that allows the owner to control the amount of grain falling into the grinding area, (this allows the user more control over the effort required when hand grinding), custom built 14" V-Belt flywheel pulley that allows for easy motor conversion and the custom mounting clamp.
- ♥ Model No.99 comes with true 5" grinding burrs that are individually machined from alloy steel, a 6 cup hopper and a custom built 12" V-Belt flywheel pulley which allows for easy motor conversion.
- ♥ Special pricing is available when our mills are combined with additional accessories
- * Optional custom mounting clamp for the Model No.99 sold separately for \$105.00 or if purchased at the same time as your mill, the package is \$740.00



GrainMaker Roller/
Flaker Mill
Model No. 275

\$625.00 + Shipping

GrainMaker Roller/Flaker Mill Model No. 275

- ♥ Features an 8 cup steel hopper
- ♥ Adjustable feed slide for added media control
- ♥ Custom 12" V-Belt flywheel pulley allows for easy motor conversion
- ♥ Two, 2 3/4" diameter knurled rollers feature a dual drive system assuring both rollers turn at the same time
- ♥ Shielded ball bearings for smooth operation
- ♥ Stands a convenient 17" tall x 9" wide; 43 lbs.
- ♥ Comes standard with a 6 cup stainless steel bin
- ♥ Features a removable steel chute to allow for large quantities of flaked media to be produced
- ♥ Optional 10 cup stainless steel bin available for \$25.00 + shipping



GrainMaker
Model No.35

\$325.00 + Shipping

GrainMaker Mill Model No.35

- ♥ Features a 3 cup steel hopper
- ♥ 11" offset extended handle with rotating hickory grip
- ♥ Hardened steel auger to feed larger grains
- ♥ Body is machined out of solid aluminum with a steel insert assuring ***your food does not come in contact with any aluminum***
- ♥ Machined 3 1/2" carbon steel burrs
- ♥ Features a 1 year warranty on the burrs
- ♥ Lifetime Heirloom Guarantee on mill body
- ♥ Features two predrilled holes for easy mounting to a counter or work surface
- ♥ Custom mounting clamp available for \$35.00
- ♥ Stands a modest 13" tall and weighs 10 pounds



Bodine Motor

\$695.00/Model No.116

\$595.00/Model No.99

\$595.00/Model No.275

Prices do not
include shipping

Custom Bodine Motor

- ♥ Custom built just for the GrainMaker mills by Bodine in Peosta, Iowa USA
- ♥ Turns at 63 RPM's to allow for safe grinding at cooler temperatures so as not to destroy the essential nutrients in your grains
- ♥ 1/5 Horsepower produces 150 inch pounds of torque
- ♥ 3.6 Amps, 115 Volts and 60 Hz.
- ♥ Motors available for Models No. 116, No.99 and No.275 Roller/Flaker Mill



Bicycle Conversion Kit

Want to make flour faster but without using electricity? This kit is perfect! Simply attach a Model No. 116 or No. 99 GrainMaker® and place a bowl on the shelf, hop on and start pedaling. Soon, you'll have freshly ground flour and you've pleased your heart with exercise!

- ♥ Custom stand for a standard 26" bicycle wheel
- ♥ Convenient bowl rest
- ♥ Custom knurled friction wheel
- ♥ Ball bearings for smooth operation
- ♥ Belt, pulley and hardware included
- ♥ Hopper guard
- ♥ Lightweight and folds for convenient storage



Bicycle Conversion Kit

\$345.00/Model No.116

\$285.00/Model No.99

Prices do not
include shipping